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**REMOTE OPERATING SYSTEM FOR RECORDING AND REPRODUCING DEVICE**

[記録再生装置遠隔操作システム]

K. YAMADA

UNITED STATES PATENT AND TRADEMARK OFFICE

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Inventors	:	K. Yamada
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(71) Applicant: **Brother Industry INC**

(72) Inventors: **K. Yamada**

(74) Agent Patent Attorney: **K. Yamada**

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(54) [Title of the Invention] Remote operating system for recording and reproducing device

(57) [Abstract]

[Topics] This provides the remote operating system for recording and reproducing device that can execute the remote operation of the remote operating system simply and for sure.

[Solution Means] The said video tape recorder remote operating system comprises the video tape recorder 1 structured to be enabled to transmit and receive electronic mail, and the electronic mail receiving and transmitting device 16 that remotely operates this video tape recorder 1 and can transmit and receive the electronic mail in order to confirm the operation status of this video tape recorder 1 along with aforementioned video tape recorder 1.

*Translation of the figure*

Operation information, operation information

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[Claims]

[Claim 1] This is a remote operating system for recording and reproducing device that remotely operates the recording and reproducing device that records and transmits images or sound or both, and this remote operating system for recording and reproducing device is characterized such that aforementioned recording and reproducing device is equipped with the electronic mail reception

means that receives the electronic mail that contains the operating information in order to operate its recording and reproducing device, the operating information interpreting means that creates the operating signal of aforementioned recording and reproducing device from the aforementioned operating information contained in the electronic mail that was received by aforementioned electronic mail reception means, and the recording and reproducing control means that controls the recording and reproducing operation of the recording and reproducing device according to the aforementioned operating signal, and is equipped with the remote operating system that transmits the electronic mail that contains aforementioned operating information in aforementioned recording and reproducing device.

[Claim 2] The remote operating system for recording and reproducing device described in claim item 1 is characterized such that aforementioned recording and reproducing device is equipped with the operating information creating means that creates the operating information of aforementioned recording and reproducing device, and the electronic mail transmission means that transmits the electronic mail that contains operating information created by aforementioned operating information creating means.

[Claim 3] The remote operating system for recording and reproducing device described in claim item 2 is characterized such that aforementioned remote operating system is structured to receive the

electronic mail that contains aforementioned operating information transmitted by aforementioned electronic mail transmission means.

[Claim 4] The remote operating system for recording and reproducing device remotely operates the recording and reproducing device that records and transmits images or sound or both, and the remote operating system for recording and reproducing device is characterized being equipped with the control device that is equipped with the electronic mail reception means that receives the electronic mail that contains the operating information in order to operate the aforementioned recording and reproducing device, the operating information interpreting means that creates the operating signal of aforementioned recording and reproducing device from the aforementioned operating signal contained in the electronic mail that was received by aforementioned electronic mail reception means, and the operating signal transmitting means that transmits the aforementioned operating signals created by the aforementioned operating information interpreting means to the aforementioned recording and reproducing device, and the recording and reproducing device that is equipped with the operating signal reception means that receives the aforementioned operating signals transmitted by aforementioned operating signal transmitting means from aforementioned control device, and recording and reproducing control means that controls the recording and reproducing operation of the aforementioned recording and reproducing device according to the

aforementioned operating signals received by this operating signal reception means, and the remote operating system that transmits the electronic mail that contains aforementioned operating information to the aforementioned control device.

[Claim 5] The remote operating system for recording and reproducing device described in claim item 4 is characterized such that aforementioned recording and reproducing device is equipped with the operating information creating means that creates the operating information of aforementioned recording and reproducing device from the operating signals generated by its operation, and the operating information transmission means that transmits the operating information created by aforementioned operating information creating means to aforementioned control device, and aforementioned control device is equipped with operating information reception means that receives the aforementioned operating information transmitted by aforementioned operating information transmission means from aforementioned recording and reproducing device and the electronic mail transmission means that transmits as the electronic mail the aforementioned operating information received by its operating information reception means.

[Claim 6]] Remote operating system for recording and reproducing device described in claim item 5 is characterized such that aforementioned remote operating system is structured to receive the electronic mail contains aforementioned operating information.

That was transmitted by aforementioned electronic mail transmission means.

[Detailed explanation of the invention]

[001]

[Utilized field in industry] The present invention relates to the remote operating system for recording and reproducing device that remotely controls the recording and reproducing device that record and reproduces images or sounds or both.

[0002]

[Prior Art] Traditionally, as the device that operates a recording and reproducing device from remotes places, there is a telecontrolling device that uses telephone circuit. This operates the telephone (push phone) from a remote place, operates the recording and reproducing device via a telephone control device, for instance, regarding the video tape recorder, according to the instruction of the voice generated from the tele control device that says "when do you start to record?", "what channel is it?" and the like, push phone is operated, thereby, operating the recording and reproducing device from a remote place.

[0003]

[Problems the Invention Attempts to Solve] However, doing the video tape recorder using a push phone that has basically different operation purpose imposed a great deal of burden on the user. For instance, for each type of a video tape recorder, it has to be operated



by a different rule, its operation method needs to be stored and operation manuals needed to be carried with and the like, making it very complicated. And in doing a series of operations, one had to go through many stages such as "when do you start to record?", "what channel is it?" and the like, it was time consuming and also inputting operation and correction operation were very complicated.

[0004] The present invention was done in order to solve above problems, and the purpose is to provide remote operating system for recording and reproducing device that can execute the remote operation of the remote operating system simply and for sure.

[0005]

[Means for Solving the Problems] In order to attain this purpose, The remote operating system for recording and reproducing device described in claim 1 of the present invention is characterized such that such that aforementioned recording and reproducing device is equipped with the electronic mail reception means that receives the electronic mail that contains the operating information in order to operate its recording and reproducing device, the operating information interpreting means that creates the operating signal of aforementioned recording and reproducing device from the aforementioned operating information contained in the electronic mail that was received by aforementioned electronic mail reception means, and the recording and reproducing control means that controls the recording and reproducing operation of the recording and

reproducing device according to the aforementioned operating signal, and is equipped with the remote operating system that transmits the electronic mail that contains aforementioned operating information in aforementioned recording and reproducing device.

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[0006] That is, the remote operating device transmits the electronic mail that contains the operating information to operate the recording and reproducing device to a recording and reproducing device, and the recording and reproducing device receives its electronic mail by electronic mail reception means, and the operating information contained in the received mail is converted into the operating signal by operating information interpreting means, and according to the operating signal, the recording and reproducing operation is controlled by recording and reproducing control means.

[0007] The remote operating system for recording and reproducing device described in claim 2 is characterized such that The aforementioned recording and reproducing device is equipped with the operating information creating means that creates the operating information of aforementioned recording and reproducing device, and the electronic mail transmission means that transmits the electronic mail that contains operating information created by aforementioned operating information creating means.

[0008] That is, operating information creating means creates the operating information of its recording and reproducing device from

the operating signal generated according to the operation of  
aforementioned recording and reproducing device, and the operating  
information thus created is transmitted by electronic mail  
transmission means as electronic mail.

[0009] The remote operating system for recording and reproducing  
device described in claim 3 is characterized such that the  
aforementioned remote operating system is structured to receive the  
electronic mail that contains aforementioned operating information  
transmitted by aforementioned electronic mail transmission means.

[0010] That is, the electronic mail that contains aforementioned  
operating information that was transmitted from aforementioned  
electronic mail transmission means is received by aforementioned  
remote control operating means.

[0011] The remote operating system for recording and reproducing  
device described in claim 4 is characterized being equipped with  
the control device that is equipped with the electronic mail reception  
means, the operating information interpreting means, aforementioned  
electronic mail reception means, and the aforementioned operating  
signal transmitting means , aforementioned operating information  
interpreting means , and the recording and reproducing device that  
is equipped with the operating signal reception means that receives  
the aforementioned operating signals transmitted by aforementioned  
operating signal transmitting means from aforementioned control  
device, and recording and reproducing control means that controls

the recording and reproducing operation of the aforementioned recording and reproducing device according to the aforementioned operating signals received by this operating signal reception means, and the remote operating system that transmits the electronic mail that contains aforementioned operating information to the aforementioned control device.

[0012] that is, the remote operating device transmits to the control device the electronic mail that contains the operating information in order to operate recording and reproducing device, and the control device receives its electronic mail by electronic mail reception means, and the operating information contained in the received mail is converted into the operating signal by operating information interpreting means, and this operating signal is transmitted to recording and reproducing device by operating signal receiving means.

Recording and reproducing device receives aforementioned operating signal by operating signal transmission means and according to its operating signal, the recording and reproducing operation is controlled by the recording and reproducing control means.

[0013] The remote operating system for recording and reproducing device described in claim 5 is characterized such that the

aforementioned recording and reproducing device is equipped with the operating information creating means that creates the operating information of aforementioned recording and reproducing device from the operating signals generated by its operation, and the operating

information transmission means that transmits the operating information created by aforementioned operating information creating means to aforementioned control device, and aforementioned control device is equipped with operating information reception means that receives the aforementioned operating information transmitted by aforementioned operating information transmission means from aforementioned recording and reproducing device and the electronic mail transmission means that transmits as the electronic mail the aforementioned operating information received by its operating information reception means.

[0014] That is, regarding aforementioned recording and reproducing device, operating information creating means creates the operating information of its recording and reproducing device from the operating information that is generated according to the operation of its recording and reproducing device, and the operating information thus created is transmitted to the control device by operating information transmission means. And the control device receives the aforementioned operating information by operating information reception means, and transmits as electronic mail by electronic mail transmission means.

[0015] The remote operating system for recording and reproducing device described in claim 6 is characterized such that Aforementioned remote operating system is structured to receive the electronic mail contains aforementioned operating information.

That was transmitted by aforementioned electronic mail transmission means.

[0016] That is, the electronic mail that contains aforementioned operating information transmitted by aforementioned electronic mail transmission means is received by aforementioned remote operating means.

[0017]

[Embodied examples] The following will explain one embodied example referring to the drawings.

[0018] Figure 1 is a drawing showing the outline structure of the video tape recorder remote operating system which is the embodied example of the present invention.

[0019] Said video tape recorder remote operating system comprises a video tape recorder 1 structured to enable transmission and reception of electronic mails, electronic mail receiving and transmitting device 16 as the remote operating system, and communication circuit 17 that connects these mutually.

[0020] The electronic mail that contains operating information of aforementioned video tape recorder 1 is made by aforementioned electronic mail receiving and transmitting device 16, and is transmitted to a video tape recorder 1. The video tape recorder 1 that received this electronic mail interprets the operating information described in its electronic mail using the operating information interpreting means 7 shown in figure 2, and according

to its operating information, the recording and reproducing operation is controlled.

[0021] And, it is structured such that a video tape recorder 1 creates its operating information into the electronic mail by operating information creating means 5 shown in Figure 2, and transmits to electronic mail receiving and transmitting device 16.

[0022] Figure 2 is a block drawing showing the outline of circuit structure of aforementioned video tape recorder 1.

[0023] This video tape recorder 1 comprises a communication line input and output part 2, electronic mail transmission means 3, electronic mail reception means 4, the operating information creating means 5,

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RAM 6, operating information interpreting means 7, RAM 8 and CPU 9, ROM 10, and video taping and reproducing control part 11 as recording and reproducing control means, RAM 12, a timer 13, standard input output part 14, video taping and reproducing part 15.

[0024] And, as ROM 10 and RAM 12, they are not limited to actual ROM and RAM, but the recording medium such as the magnetic medium or optical magnetic medium and the like that can read and write can be used.

[0025] CPU 9 controls each operation of electronic mail transmission means 3, electronic mail reception means 4, operating information

creating means 5, operating information interpreting means 7 and video taping and reproducing control part 11.

[0026] The operation of the regular video tape recorder 1 such as video taping and reproducing, and reserved video taping and the like in a certain chamber is done by standard input output part 14.

[0027] In case of regular video taping and reproducing, in order to be operated by the operator optionally such as reproduction and fast forwarding, this operating signal is transmitted to video taping and reproducing part 15 through video taping and reproducing control part 11 by operating standard input output part 14.

[0028] In case of setup operation of the reserved video taping, the operator inputs the reservation information (operating information) such as recording start time and the like by operating aforementioned standard input output part 14, the operating signal generated by its input is stored in RAM 12, and its stored content is referred to by Timer 13, and when video taping, video taping and reproducing control part 11 is controlled according to its stored content, video taping and reproducing part 15 is driven.

[0029] Next, the remote operation of a video tape recorder 1 that uses electronic mail will be explained.

[0030] The electronic mail that was received by electronic mail reception means 4 via a communication line input and output part 2 is converted into the operating signal of a video tape recorder 1 by operating information interpreting means 7, and transmitted



to video taping and reproducing control part 11. video taping and reproducing control part 11, based on its operating signal, sends the control signal to drive video taping and reproducing part 15, or stores in RAM 12 the information such as recording start time and the like that is necessary for reserved video taping.

[0031] And, the structure is that the operating information creating means 5 creates the operating information of a video tape recorder

1 based on the operating signals generated according to the operation executed in the video tape recorder 1, such as reserved video taping completion and the like that shows completing memory processing into the aforementioned RAM 12 and the operating signal of aforementioned video taping and reproducing part 15 monitored by aforementioned video taping and reproducing control part 11, and by its operating information, the electronic mail is created via a communication line input and output part 2 by electronic mail transmission means 3.

[0032] Here, using Figure 3, the structure of the data of electronic mail that are received and transmitted in this video tape recorder remote operating system will be explained.

[0033] Figure 3-a is an example of the data structure of operating information. IN this figure, [User ID] is a number or a symbol example that shows he/she is the right user of a video tape recorder 1, and is referenced against the content stored in ROM 10. And [operation designation] designates the operation of a video tape recorder, [work content] designates the time and the like, work content against

recording reservation, [reply designation] designates the reply address of the operating information.

[0034] And, Figure 3-b shows the example of the operating information in case of reserved video taping of a video tape recorder 1, Figure 3-c a reservation confirmation, Figure 3-d is a cancellation of reservation respectively.

[0035] For instance, User ID is [ABCDEF], the reservation time is 7PM to 754PM on Monday, the channel to be reserved is the channel 9, thus reserved video taping is designated, and in order to confirm whether or not the reservation was done right, the operating information when the reply address of the operating information is designated as [test@exmaple], is as in Figure 4 due to the example in Figure 3-c.

[0036] In figure 4, as the content of the necessary operating information for reservation, there are the day of the week, reservation start time, reservation ending time, channel no, these can be an electronic mail as is, but instead, they can be converted into the number or symbol array (G code) unique to the TV program set up for recording reservation, and made into electronic mail and transmitted.

[0037] Figure 5 is a flow chart showing the example of the interpreting procedure of the operating information in operating information interpreting means 7.

[0038] Aforementioned operating information interpreting means 7, when it receives the operating information as shown in Figure 4, confirms whether or not the user ID is the same one stored in ROM 10 by referencing. (Step 1).

[0039] Next, the decision is made whether or not the operating information received is the operation instruction of the reserved video taping (step 2). In this case, the data in Figure 4 shows recording reservation (Step 2: yes), and from aforementioned operating information, the day of the week, start time, ending time, channel no are read into RAM 8 (Step 3), ~~the operating information~~

~~is create by the information read into RAM 8 (Step 4), then, operating~~  
~~signal is sent to video taping and reproducing control part 11 (Step~~  
5). And, that the reserved video taping set up is completed, the necessary reply address (test@exmaple) to transmit the electronic mail is read into RAM 8 (Step 6).

[0040] Figure 6-a is an example of creating operating information. The stylized sentence that matches the operation of a video tape recorder is read into RAM 6, thereto is added the content of the specific operation. For instance, in case the operating information that notifies the completion of reserved video taping is created, as the stylized sentence, [recording was completed] stored in ROM 10 is selected, and as the content of operation, [the day of the week, starting time, ending time, channel that are set up content

of the reserved video taping that was completed by this operation are added,

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[0041] Figure 6-b is an example of the operating information when a reserved video taping is received, and Figure 6-c is when reservation video taping is completed, Figure 6-d is when reservation is confirmed, Figure 6-e is when its reservation is cancelled.

[0042] Figure 7 is a flow chart showing an example of creating the operating information by operating information creating means in case reserved video taping is completed.

[0043] when the reservation video taping is completed using the data shown in Figure 4, reservation video taping completion signal is sent from video taping and reproducing control part 11 to operating information creating means 5. operating information creating means 5 decides whether or not it receives reservation video taping completion signal (Step 1), and if it is decided that reserved video taping completion signal was received (Step 1: yes), the stylized sentence (the reserved video taping has completed) of the operating information stored in ROM 10 is read into RAM 6 (Step 2).

[0044] Next, the setup content (day of the week, startup time, ending time, channel) of the reservation video taping that was completed this time is added to the stylized sentence that was read into RAM 6 (Step 3). Next, the operating information is created from the information that was read into RAM 6 at Step 2 and Step 3 (Step 4).

And the operating information thus created is sent to electronic mail transmission means 3 (Step 5).

[0045] As described above, according to the video tape recorder remote operating system of this embodied example, even when the many operations that has setup items such as reservation video taping and the like is operated remotely, it can be done while confirming the setup content while looking at the screen of electronic mail receiving and transmitting device 16, hence, it can be done simply and for sure and correction is easy. And the operation status of a video tape recorder 1 can be easily confirmed from a remote place. Hence, a remote operating system for recording and reproducing device is provided that enables remote operation of the recording and reproducing device by a simple procedure and with certainty.

[0046] And, the present invention is not limited to the above described embodied example, and as long as it is within the range that does not modify the gist of the present invention, it can be changed in many ways.

[0047] For instance, in the aforementioned embodied example, electronic mail reception means, operating information interpreting means were provided in recording and reproducing control means, thus, recording and reproducing device was structured to enable the transmission and reception of electronic mails, however it can be structured such that transmission and reception of electronic mail

and operating signal can be generated by the control device set up outside of the recording and reproducing device.

[0048] Figure 8 is a drawing showing the outline of the structure of the video tape recorder remote operating system.

[0049] The video tape recorder remote operating system shown in Figure 8 comprises video tape recorder remote control system 18, video tape recorder 19, electronic mail transmitting and receiving device 40 and communication circuit 41.

[0050] The electronic mail that contains operating information is transmitted from video taping and reproducing part 39, and video tape recorder remote control system 18 that received this electronic mail converts the operating information described in electronic mail into operating information, and transmits to the video tape recorder 19. Video tape recorder 19 operates according to the operating signal sent from video tape recorder remote control system 18.

[0051] And, video tape recorder 19 transmits the aforementioned operating information generated according to the operation to video tape recorder remote control system 18. And video tape recorder remote control system 18 creates the operating information sent from video tape recorder 19 into electronic mail, and transmits to video taping and reproducing part 39.

[0052] And, in this example, as a recording and reproducing device, a video tape recorder was used, however, any the recording and

reproducing related devices such as cassette tape recorders, mini disks, DAT, DVD and the like can be used.

[0053] Figure 9 is a block drawing showing the outline of circuit structure of aforementioned video tape recorder 19 used for this a video tape recorder remote operating system and video tape recorder remote control system 18.

[0054] Aforementioned video tape recorder 19 comprises operating signals reception means 29, operating information transmission means 30, operating information creating means 31, RAM 32, CPU 33, ROM 34, video taping and reproducing control part 35, RAM 36, timer 37, standard input output part 38 and video taping and reproducing part 39.

[0055] And, video tape recorder remote control system 18 comprises communication line input and output part 20, electronic mail transmission means 21, electronic mail reception means 22, operating information interpreting means 23, RAM 24, CPU 25, ROM 26, operating signal transmitting means 27, operating signal receiving means 28.

[0056] Here, electronic mail transmission means 21, electronic mail reception means 22, operating information interpreting means 23, operating signal transmitting means 27, operating signal receiving means 28 are controlled by CPU 25, and operating information transmission means 29, operating information reception means 30, operating information creating means 31, and recording and reproducing control part 35 each are controlled by CPU 33.

[0057] As the transmission and reception method used for operating signal transmitting means 27, operating information reception means 28, operating signal receiving means 29, and operating information transmission means 30 is infra red rays and wired method that are commonly used for remote control devices such as a video tape recorder and the like..

[0058] the following will explain the block drawing in Figure 9, about the operation of aforementioned video tape recorder, 19, video tape recorder remote control system 18.

[0059] If the electronic mail contact contains operating information is received by electronic mail reception means via 2ROM 20 of video tape recorder remote control system 18,

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The operating information contained in this electronic mail is converted into the operating signal of video tape recorder 19, and this operating signal is transmitted to video tape recorder 19 by operating signal transmitting means to video tape recorder 19.

[0060] When operating signal receiving means of video tape recorder 19 receives the operating signal transmitted from video tape recorder remote control system 18, this operating signal is sent to recording and reproducing control part 35.

[0061] Recording and reproducing control part 35 either sends the signal that controls the drive of video taping and reproducing part



39 based on the received operating signal, or records the necessary information for reserved video taping into RAM 36.

[0062] and, video tape recorder 19 sends the operating signal sent from recording and reproducing control part 35 to operating information creating means 31. And this operating information creating means 31, based on the operating signal, creates the operating information of video tape recorder 19, and transmits to video tape recorder remote control system 18 of video tape recorder 19.

[0063] Aforementioned operating information, if it is received by operating information reception means 28 of video tape recorder remote control system 18, is transmitted as the electronic mail by communication line input and output part 20 by electronic mail transmission means 28.

[0064] And, Figure 10 shows an example of the input screen when above described embodied example, electronic mail receiving and transmitting device 16 and 40 are operated. Doing like this, by making the input screen like the standard input output part of a video tape recorder, remote operation of a video tape recorder can be done simply.

[0065]

[Effects of the Invention]

As explained above, according to the remote operating system for recording and reproducing device described in claim item 1 of the

present invention, even when the remote operation that has many items to be set up such as reservation video taping and the like is done, since it can be done while confirming the setup content by a remote operating device, the operation is simple, assured, and can be corrected. Hence, this provides the remote operating system for recording and reproducing device that has simple and assured operation procedure and can do the remote operation of the recording and reproducing device.

[0066] According to the remote operating system for recording and reproducing device described in claim item 2 of the present invention, since operation status of recording and reproducing device can be transmitted as electronic mail, the operation status of recording and reproducing device can be confirmed from the remote place and can be done easily.

[0067] According to the remote operating system for recording and reproducing device described in claim item 3 of the present invention, since the operation status of recording and reproducing device can be transmitted to the remote operating device as electronic mail, using its remote operating device, the operation status of the recording and reproducing device can be confirmed from the report place and operated.

[0068] According to the remote operating system for recording and reproducing device described in claim item 4 of the present invention, the centralized control device that that exchanges the information

with aforementioned remote operating device is set up separate from the recording and reproducing device, recording and reproducing device can exchange with the aforementioned control device the operating signals that can be directly handled by the recording and reproducing device, or the only the operating signal. Hence, without complicating the structure of recording and reproducing device, and using simple operation procedure, remote operation of the recording and reproducing device can be executed assuredly and also, the present invention can be easily applied for the recording and reproducing device that has existed traditionally.

[0069] According to the remote operating system for recording and reproducing device described in claim item 5 of the present invention, without complicating the structure of a recording and reproducing device, and using simple operation procedure, remote operation of the recording and reproducing device can be executed assuredly and also, since the operation status of recording and reproducing device can be sent as electronic mail, the operation status of the recording and reproducing device can be confirmed from a remote place easily.

[0070] According to the remote operating system for recording and reproducing device described in claim item 6 of the present invention, without complicating the structure of recording and reproducing device, and using simple operation procedure, remote operation of the recording and reproducing device can be executed assuredly and also, since the operation status of recording and reproducing device

can be sent as electronic mail, the operation status of the recording and reproducing device can be done while confirming it from a remote place easily.

[Brief Description of the Drawings]

Figure 1 is a drawing showing the outline structure of the video tape recorder remote operating system which is the embodied example of the present invention.

Figure 2 is a block drawing showing the outline of circuit structure of aforementioned a video tape recorder 1.

Figure 3 is a drawing showing an example of data structure of the operating information handled by the aforementioned embodied example.

Figure 4 is a drawing showing one example of aforementioned operating information.

Figure 5 is a flow chart showing the example of the interpreting procedure of the operating information in operating information interpreting means.

Figure 6 is a drawing showing an example of the operating information handled by aforementioned embodied example.

Figure 7 is a flow chart showing an outline of the processing procedure in operating information creating means of the aforementioned embodied example.

Figure 8 is a drawing showing the outline of the structure of the video tape recorder remote operating system.

Figure 9 is a block drawing showing an outline of the circuit structures of a video tape recorder and a video tape recorder control device used for aforementioned other embodied example.

Figure 10 is a drawing showing one example of an input screen of electronic mail receiving device used for aforementioned 2 embodied examples.

[Explanation of the Elements]

1...Video tape recorder, 2... Communication line input and output part... 3...Electronic mail transmission means, 4... Electronic mail reception means 5... Operating information creating means, 6... Operating information interpreting means,

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8... RAM, 9... CPU, 10... ROM, 11...Recording and reproducing control part, 12... RAM, 13... Timer, 14... Standard input output part, 15... Recording and reproducing part, 16...Electronic mail receiving and transmitting device, 17... Communication circuit, 18... Video tape recorder remote control system, 19... Video tape recorder 20... Communication line input and output part,

32...RAM, 33... CPU, 34... ROM, 35... Recording and reproducing control part, 36... RAM, 37... Timer, 38... Standard input output part, 39... Video taping and reproducing part, 40... Electronic mail transmitting and receiving device

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